tutorial lines is offered selected freshman students. Many schools have encouraged activities that bring together the students apprenticed to different laboratories for journal clubs, science clubs, mathematics courses, etc.

If research participation is accepted as a valuable part of undergraduate education—which seems to be the trend—the investigator in the research laboratory is undertaking an obligation when he accepts a student into his laboratory, not simply offering an opportunity. But only when we have decided what the research experience is supposed to do to the student—rather than what the student is supposed to do to the research project—can we determine where it belongs in the curriculum and whether these students who irregularly people our laboratories are outrageously underpaid technicians, or are an elite vaguely headed for positions of academic leadership, or are simply a student body being optimally prepared for the scientific medicine of tomorrow.

ROBERT P. GRANT

References

The Early History of Instrumental Precision in Medicine
We have all come to admit gratefully the value of specialisation in medicine; but he who is watchful over the general interests of his profession must have seen that this subdivision of labour involves for us perils, which are seen on the one side by the general practitioner, and on the other by those who, in a large-minded way, pursue limited lines of work. Medicine does not grow in an even fashion. When watching a saline solution under the lens, you observe some brilliant crystal shoot out in advance and hold its place until the rest, more slowly but surely, join or pass it, you see an image of that which continually illustrates medical progress. Today it is surgery which wins; a few years ago it was ophthalmology, which in newly acquired precision and in predictive accuracy and therapeutic gains, set up for us novel standards of exactness and, enriching our symptomatology, cast light in many directions. The mere physician seemed to be hopelessly left behind, but now again it is pure medicine which has gone to the front.—S. Weir Mitchell, M.D., Transactions of the Congress of American Physicians and Surgeons, Second Triennial Session held at Washington, D.C., 1891. New Haven, The Congress, 1892, p. 160.


It has often been said that, to make discoveries, one must be ignorant. This opinion, mistaken in itself, nevertheless conceals a truth. It means that it is better to know nothing than to keep in mind fixed ideas based on theories whose confirmation we constantly seek, neglecting meanwhile everything that fails to agree with them. Nothing could be worse than this state of mind; it is the very opposite of inventiveness. Indeed a discovery is generally an unforeseen relation not included in theory, for otherwise it would be foreseen.—CLAUDE BERNARD. An Introduction to the Study of Experimental Medicine. New York, The MacMillan Company, 1927, p. 37.


It is with the symptoms of disease that the patient, and that the doctor mainly, contends; and the symptoms of heart disease may be said to derive almost exclusively from faults in function. Therefore, in managing our patients, our thoughts must be chiefly set in terms of function and not of structure. To whom I fail to teach this first simple, but essential, lesson I have nought to teach.—Sir Thomas Lewis. Diseases of the Heart. New York, The MacMillan Company, 1933, p. vii.
Nucleated red cells were found in the blood of only two of the five patients who died, whereas reticulocyte counts above 3.0 per cent were found in all patients who died. Although four of the patients had mild anemia, there was a good correlation between the reticulocyte count and the arterial oxygen saturation. The direct bilirubin of case 5 was increased, as a result of long-standing portal cirrhosis with superimposed congestive heart failure. The correlation of arterial oxygen saturation with the appearance of immature red blood cells in the peripheral blood of patients in congestive heart failure has not, to the knowledge of the writers, been previously reported.

Conclusions

Reticulocytosis and nucleated red cells in the peripheral blood of patients with congestive heart failure suggest an unfavorable prognosis.

The arterial oxygen saturation was decreased in all patients studied except one.

The findings suggest that a rise in the reticulocyte count in patients with congestive heart failure suggests a grave prognosis, and is a more useful tool than the nucleated red cell count.

References


Religio Medici

For my Religion, though there be several Circumstances that might perswade the World I have none at all, (as the general scandal of my Profession, the natural course of my Studies, the indifferency of my Behaviour and Discourse in matters of Religion, neither violently Defending one, nor with that common ardour and contention Opposing another;) yet, in despithe thereof, I dare without usurpation assume the honourable Stile of a Christian.—Sir Thomas Browne. Religio Medici, 1642, edited by W. A. Greenhill, M.D., Oxon., London, MacMillan and Co., Limited, 1950, p. 7.
THE MARFAN SYNDROME


Thomas Sydenham
1624–1689

Therein lies Sydenham’s historical importance, that he turned physicians’ attention in a new direction, toward particular illnesses. . . Whereas for a century investigators had been studying man in general, had been studying illness in general, had been trying with the inadequate methods and instruments of the day to solve the problems of general pathology, Sydenham proclaimed the importance of special pathology. First, he said, let us study particular diseases, let us learn how they make themselves perceptible to us in a particular patient. Let us seek to learn from experience what remedies are best in particular diseases. General conclusions can wait.—HENRY E. SIGERIST, M.D. The Great Doctors. New York, W. W. Norton & Co., Inc., 1933, p. 180.


In the growth of human societies small civilisations, however exquisite, have been sacrificed to the formation of vaster and vaster congregations of men; thus only, it would seem, is an equilibrium to be reached of sufficient stability for the highest ends of mankind. Greece, beautiful as was her bloom, penetrating as was her spirit, perhaps because of her very freedom of thought, never became a nation; her city states were too willful to combine.—Thomas Clifford Allbutt, M.A., M.D. Science and Medieval Thought. London, C. J. Clay & Sons, 1901, p. 21.


22. MORRIS, G. C., Jr., Personal communication.

One drawback of the present popular confidence in research is that the donors of research funds have overlooked or underestimated the importance of the medical education that will provide an adequate supply of good researchers in the future. The donors have also ignored the importance of giving first-rate research men today the salaries and tenure they deserve. As between donor and recipient, the relationship, especially in short-term grants, suggests a grim variant of the declaration that it is more blessed to give than to receive—it is certainly more comfortable. For the plain fact of the matter is that most of our medical schools often find that the full cost of research is not covered by the grants which are supposed to pay for it. The schools cannot afford any longer to accept the full moral responsibility, but only part of the full cost, of many research projects.—ALAN GREGG, M.D., Challenges to Contemporary Medicine. New York, Columbia University Press, 1956, p. 72.
On Permanent Patency of the Mouth of the Aorta,
or Inadequacy of the Aortic Valves

By Dominic John Corrigan, M.D.

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...the hypertrophy is recognized as a provision of nature to make the power of the part equal to the obstacle it has to overcome; and yet this simple principle seems to have been entirely overlooked in diseases of the heart, as if this organ possessed muscular fibres of a different nature from other organs, or as if, in adapting itself to obstacles affecting its action, it follows laws different from other muscular parts. The consequence of the neglect of this principle has been, that too often, in treatment of a valvular alteration in the heart, there has been a constant struggle between nature and medicine. Nature has been making the organ equal to its task; while medicine has been directed to counteract nature's efforts, and, by weakening the organ, to render it totally incapable of its task. The repeated bleedings, the starvings, the enforcement of debilitating measures, are totally unsuited to the disease we are considering.
from unilateral lumbar sympathectomy so far as the postoperative temperature in the gastrocnemius muscle of the sural skin is concerned. No change from preoperative values could be observed. The temperatures remained stable. Moreover, clinically no improvement was noted in comparison with the preoperative condition. No acute exacerbation of the disease was noted. It would appear that these nine patients had organic changes of the arteries without the presence of a significant vasospastic component. Thus, no effect from sympathetic denervation could be observed.

**Summary**

A group of 26 patients who had peripheral occlusive arterial disease of the lower extremity were studied before and after chemical or surgical unilateral lumbar sympathectomy. The temperatures of the gastrocnemius muscle and of the skin of the sural area were determined simultaneously preoperatively and postoperatively. Only patients who had undergone successful unilateral lumbar sympathetic denervation based on the postoperative area of anhidrosis were included. The data were obtained under basal conditions among the 26 patients, and the persons studied were divided into two groups. Group 1 was composed of 17 patients (65 per cent) who had a definite parallel increase of 1.2 C. in the temperature of the gastrocnemius muscle and the skin after unilateral sympathectomy. In group 2 (nine patients or 35 per cent) the temperature of the gastrocnemius muscle and the skin of the sural area was unchanged after unilateral sympathectomy. Since none of these patients were suitable for surgical bypass arterial-grafting procedures and all were in the older age group, not too much could be expected from the standpoint of an increase in temperature. However, when the temperature of the skin after operation increased, the temperature of the gastrocnemius muscle also increased.

**References**


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Consider the virtues of taciturnity. Speak only when you have something to say.—

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References


The first condition to be fulfilled by men of science, applying themselves to the investigation of natural phenomena, is to maintain absolute freedom of mind, based on philosophic doubt. Yet we must not be in the least sceptical; we must believe in science, i.e., in determinism; we must believe in a complete and necessary relation between things, among the phenomena proper to living beings as well as in all others; but at the same time we must be thoroughly convinced that we know this relation only in a more or less approximate way, and that the theories we hold are far from embodying changeless truths. When we propound a general theory in our sciences, we are sure only that, literally speaking, all such theories are false. They are only partial and provisional truths which are necessary to us, as steps on which we rest, so as to go on with investigation; they embody only the present state of our knowledge, and consequently they must change with the growth of science, and all the more often when sciences are less advanced in their evolution.—Claude Bernard. An Introduction to the Study of Experimental Medicine. New York, The MacMillan Company, 1927, p. 35.


The basis of the practice of medicine will always be the study of disease at the bedside by every available method, and since Sydenham is the archetype of those who believe that the most successful way of studying disease is at the bedside, his name will forever endure. The epitaph on his monument in St. James' Church, Westminster, is magnificent and true:


The physician without physiology and chemistry practices a sort of popgun pharmacy, hitting now the malady and again the patient, he himself not knowing which.—Sir William Osler. Aphorisms From His Bedside Teachings and Writings. Edited by William Bennett Bean, M.D. New York, Henry Schuman, Inc., 1950, p. 49.